



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/591,326

08/31/2006

Naoki Nishiura

VX062753 PCT

9434

23400 7590 01/05/2010

POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER

FANG, SHANE

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

01/05/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,326	Applicant(s) NISHIURA ET AL.	
	Examiner SHANE FANG	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/02/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 12-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-6, 17-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-8, 10, 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

- The amendment of claims 7-10 and 16 has been found supported by the original claims
- The previous 103 rejections of claims 9 and 11 over Paul et al. in view of Hasegawa et al. and evidenced by Wilson et al. have been rendered moot by cancellation.
- The previous ODP rejections of claims 7 and 12 over 12/441980 have been overcome by amendment.
- The previous 102 rejections of claims 7-8, 10, 12, and 16 over Paul et al. have been overcome by amendment.
- The previous 103 rejection of claim 13 over Paul et al. in view of Kanetake et al. has been overcome by amendment.
- The previous 103 rejections of claims 7 and 14-16 over Kanetake et al. in view of Paul et al. has been overcome by amendment.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1796

2. Claims 7-8, 10, and 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul et al. (US 5138028, in previous 892) in view of Hasegawa et al. (Macromolecules 1999, 387-396) as listed on IDS and evidenced by Wilson et al. (Polyimide, Blackie & Son Ltd, 1990, Pg. 1-2, scheme 1.2, in previous 892).

Disclosure of Paul et al., Hasegawa et al., and Wilson et al. are adequately set forth in ¶¶4 and 6 and are incorporated herein by reference.

Paul is silent on using a combination of asymmetric dianhydride (15-55 mol%) and symmetric dianhydride (45-85%) or equivalent diesters with the same ratio range.

The amendment of claims 7-10 and 16 incorporates limitations of previous claims 9 and 11 that are presently cancelled. As set forth in the previous action, as to claims 7-8, 10, and 12, and 16, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the composition and method disclosed by Paul et al. and use the asymmetric/symmetric dianhydride ratio in light of Hasegawa et al, because the resultant composite film would have improved the thermal processability and retained T_g .

3. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul et al. (US 5138028, in previous 892) in view of Hasegawa et al. (Macromolecules 1999, 387-396) as listed on IDS and evidenced by Wilson et al. (Polyimide, Blackie & Son Ltd, 1990, Pg. 1-2, scheme 1.2, in previous 892) and in further view of Kanetake et al. (US 6303054).

Disclosure of Paul et al., Hasegawa et al., Kanetake et al., and Wilson et al. are adequately set forth in ¶¶4 and 6-7 and above ¶2 and are incorporated herein by reference.

Paul et al., Hasegawa et al., and Wilson et al. are silent on the loading of carbon black.

As set forth in the previous action, as to claim 13, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the composition disclosed by Paul et al. and Hasegawa et al., evidenced by Wilson et al. and use carbon black loading as taught by Kanetake et al, because the resultant polyamic acid composition would have stable semiconductivity.

4. Claims 7-8,10,12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanetake et al. (US 6303054) in view of Paul et al. (US 5138028) and in further view of Hasegawa et al. (Macromolecules 1999, 387-396) as listed on IDS and evidenced by Wilson et al. (Polyimide, Blackie & Son Ltd, 1990, Pg. 1-2, scheme 1.2, in previous 892).

Disclosure of Paul et al., Hasegawa et al., Kanetake et al., and Wilson et al. are adequately set forth in ¶¶4 and 6-8 and above ¶2-3 and are incorporated herein by reference. Kanetake et al. further discloses a process of dispersing carbon black in polyamic acid solution (Ex. 1).

Kanetake et al. is silent on polyamic acid being oligomeric and prepared from multiple dianhydrides using a combination of asymmetric dianhydride (15-55 mol%) and

Art Unit: 1796

symmetric dianhydride (45-85%) or equivalent diesters with the same ratio range as recited in claim 14-16, and 7.

As set forth in the previous action, as to claims 7-8,10,12-16, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the process disclosed by Kanetake et al. and use oligomeric polyamic acid and prepared from multiple dianhydrides as taught by Paul et al. plus combination of asymmetric dianhydride and symmetric dianhydride in view of Hasegawa et al. and evidenced by Wilson et al., because the resultant polyimide molded film would have higher fusion temperature and the process would be optimized due to the minimization of viscosity issue and improved the thermal processability and retained T_g of polyimides.

Response to Arguments

The argument for allowance of amended claims has been fully considered but not persuasive.

The applicant's traverse of previous 102 rejections has been rendered moot (Pg. 14, ¶1).

The applicant has argued the teachings of Paul, Hasegawa, Wilson, and Kanetake, either alone or in combination, do not disclose or suggest the inventions having the properties such as semiconductivity and/or structures (Pg. 14, ¶2-Pg.19, ¶3). The examiner disagrees.

Applicant's argument that Paul's deficiency, which is failing to disclose an example of polyamic acid having both symmetric and asymmetric dianhydride moiety

Art Unit: 1796

(Pg. 16, ¶2, Pg. 17, ¶2, Pg. 19, ¶1,) has been addressed in the present action and is alleviated by Hasegawa et al. and evidenced by Wilson et al. Note working examples are not a requirement, and the entire disclosure of the reference must be considered. Compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, does not turn on whether an example is disclosed. An example may be “working” or “prophetic.” A working example is based on work actually performed. A prophetic example describes an embodiment of the invention based on predicted results rather than work actually conducted or results actually achieved. See MPEP- 2164.02.

The applicant has argued Paul discloses to use dianhydride in excess over diamine (Pg. 16, ¶3-P. Pg. 17, ¶1). Paul et al. discloses using stoichiometric equivalent ratio of diamine and dianhydride and adding monoamine end capping DASA (9:4-6). Instant claims requires approximately equivalent molar amount of dianhydride vs. diamine, indicating either one of the moiety is excessive. One of ordinary skill in the art would obviously recognize the molar ratio would not be 1:1 to prevent infinite MW development based on the principle of condensational polymerization. In light of this, the present invention is not distinguishable from Paul concerning this limitation.

The applicant has argued Paul fails to disclose forming seamless tubular film Pg. (17, ¶2). As set forth in the previous and present action, this limitation has been met by Kanetake.

The applicant has merely argued Hasegawa and Wilson would not produce a polyimide equivalent to those of present invention due to the carbon black dispersion issue without providing evidence (Pg. 18, 2-3). However, in a patent it is presumed that

Art Unit: 1796

a process if used by one skilled in the art will produce the product or result described therein, such presumption is not overcome by a mere showing that it is possible to operate within the disclosure without obtaining the alleged product. In re **Weber**, 405 F.2d 1403, 160 USPQ 549 (CCPA 1969). It is to be presumed also that skilled workers would as a matter of course, if they do not immediately obtain desired results, make certain experiments and adaptations, within the skill of the competent worker. The failures of experimenters who have no interest in succeeding should not be accorded great weight. In re **Michalek**, 162 F.2d 229, 74 USPQ 107 (CCPA 1947); In re Reid, 179 F.2d 998, 84 USPQ 478 (CCPA 1950). MPEP § 2121, 716.07. In addition, Kanetake et al. discloses a method of dispersing carbon black (Ex.1).

Applicant's has argued Kanetake's deficiency (Pg. 19, ¶3). This deficiency has been addressed in the present action and is alleviated by Hasegawa et al. and evidenced by Wilson et al.

Therefore, as set forth in the present action, one of ordinary skill in the art would have combined cited references and form the present invention with the inherent properties such as semiconductivity.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sf

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796